

SEQUENCE LISTING

<110> Fraunhofer Gesellschaft zur Förderung der angewand

<120> Molecular Pathogenicide Mediated Plant Disease
Resistance

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<150> 98 11 9630.6

<151> 1998-10-16

<160> 163

<170> PatentIn Ver. 2.1

<210> 1

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

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<223> Description of Artificial Sequence: synthetic, no
natural origin

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28

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<211> 1378

<212> DNA

per paper #6

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

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<210> 4

<211> 17

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 4

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17

<210> 5

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 5

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<210> 6

<211> 148

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 6

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gcaaattccg agcagcgctg ccaagaaagt caccaagagc aaagttcttc ccaatctcct 120
agcggccgca gaacctccac ctccgctcg                                     148
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<210> 7

<211> 145

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 7

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gagtgtgat atcgctggga tcaccaatt ggtccaccat gaagagttag actcaacagc 120
ggccgcagaa cctccacctc cgctcg                                     145
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<210> 8

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 8

ggctctagac gctcgagttt aagtgaagaa ataaataaca ataacaacaa caataatagc 60
acaaatagca ccaagcataa tcatcatctt acaattcttc caagcggcgg cagaacctcc 120
acctccgtcg 130

<210> 9

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 9

gttttcccag tcaagac 17

<210> 10

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 10

ggctctagac gctcgagttt agaaatgcct agatc 35

<210> 11

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 11

ggctctagac gctcgagttt aagtgaagaa ataaataaca ataacaacaa c 51

<210> 12
<211> 900
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 12

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acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180
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<210> 13
<211> 918
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 13

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attgttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180
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tgcaaggcct ctggatacac attcattacc tatgttatgc actgggtgaa gcagaagcct 540
gggcagggcc ttgagtggat tggatatatt aatcctaaca aagacggtac aaagttcaat 600
gagaagttca aaggcaaggc cacactgact tcagacaaat cctccaacac agcctacatg 660

gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
 tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
 ggtggagggt ctgcggccgc taggagattg ggaagaactt tgctcttggg gactttcttg 840
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 taaactcgag cgtctaga 918

<210> 14

<211> 915

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 14

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 attgtttctca cccagtctcc agcaatcatg tctgcatctc caggggagaa ggtcaccatg 120
 acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180
 tcccccaaaa gatggattta tgacacatcc aaactggcct ctggagtccc tggtcgcttc 240
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 aagctggaga taaaaggctc tactagtggg tccgggaaga gctctgaagg taaagggtgag 420
 gtccagctgc agcagtctgg acctgagctg gtaaactctg gggcttcagt gaagatgtcc 480
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 gagctcagca gcctgacctc tgaggactct gcggtctatt actgtgcaag agactatgat 720
 tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
 ggtggagggt ctgcggccgc tggtgagtct aactcttcat ggtggaccaa ttgggtgatc 840
 ccagcgatat cagcactcgt ggttgcctct atgtatagac tctacatggc agaggattaa 900
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<210> 15

<211> 900

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 15

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 acctgcagtg ccagttcaag tgtaagtaaa atgcaatggg atcagcagaa gtcaggcacc 180

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 tacgactggg ttgcttactg gggccagggg actctgggtca ctgtctctgc agtcgacgga 780
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<210> 16

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 16

gcggaattcg acgtcgccat ggccttcctc ggcgacggcg gcgac

45

<210> 17

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 17

gcgaagcttg tcgaccggcg gtttgccggg ctggctg

37

<210> 18

<211> 1604

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 18

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caaggactgg gagcacctcg aagagttcta aactcgagtc taga 1604

<210> 19

<211> 1050

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 19

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1

5

10

15

Gly Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Lys

20

25

30

Met Gln Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile

35

40

45

Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Gly Thr Lys Leu Glu Ile
85 90 95

Lys Gly Ser Thr Ser Gly Ser Gly Lys Ser Ser Glu Gly Lys Gly Glu
100 105 110

Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Asn Pro Gly Ala Ser
115 120 125

Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Thr Tyr Val
130 135 140

Met His Trp Val Lys Gln Lys Pro Gly Gln Gly Leu Glu Trp Ile Gly
145 150 155 160

Tyr Ile Asn Pro Asn Lys Asp Gly Thr Lys Phe Asn Glu Lys Phe Lys
165 170 175

Gly Lys Ala Thr Leu Thr Ser Asp Lys Ser Ser Asn Thr Ala Tyr Met
180 185 190

Glu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala
195 200 205

Arg Asp Tyr Asp Tyr Asp Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu
210 215 220

Val Thr Val Ser Ala Val Asp Gly Gly Gly Ser Met Lys Arg Met Leu
225 230 235 240

Ile Asn Ala Thr Gln Gln Glu Glu Leu Arg Val Ala Leu Val Asp Gly
245 250 255

Gln Arg Leu Tyr Asp Leu Asp Ile Glu Ser Pro Gly His Glu Gln Lys
260 265 270

Lys Ala Asn Ile Tyr Lys Gly Lys Ile Thr Arg Ile Glu Pro Ser Leu
275 280 285

Glu Ala Ala Phe Val Asp Tyr Gly Ala Glu Arg His Gly Phe Leu Pro

290

295

300

Leu Lys Glu Ile Ala Arg Glu Tyr Phe Pro Ala Asn Tyr Ser Ala His
 305 310 315 320

Gly Arg Pro Asn Ile Lys Asp Val Leu Arg Glu Gly Gln Glu Val Ile
 325 330 335

Val Gln Ile Asp Lys Glu Glu Arg Gly Asn Lys Gly Ala Ala Leu Thr
 340 345 350

Thr Phe Ile Ser Leu Ala Gly Ser Tyr Leu Val Leu Met Pro Asn Asn
 355 360 365

Pro Arg Ala Gly Gly Ile Ser Arg Arg Ile Glu Gly Asp Asp Arg Thr
 370 375 380

Glu Leu Lys Glu Ala Leu Ala Ser Leu Glu Leu Pro Glu Gly Met Gly
 385 390 395 400

Leu Ile Val Arg Thr Ala Gly Val Gly Lys Ser Ala Glu Ala Leu Gln
 405 410 415

Trp Asp Leu Ser Phe Arg Leu Lys His Trp Glu Ala Ile Lys Lys Ala
 420 425 430

Ala Glu Ser Arg Pro Ala Pro Phe Leu Ile His Gln Glu Ser Asn Val
 435 440 445

Ile Val Arg Ala Phe Arg Asp Tyr Leu Arg Gln Asp Ile Gly Glu Ile
 450 455 460

Leu Ile Asp Asn Pro Lys Val Leu Glu Leu Ala Arg Gln His Ile Ala
 465 470 475 480

Ala Leu Gly Arg Pro Asp Phe Ser Ser Lys Ile Lys Leu Tyr Thr Gly
 485 490 495

Glu Ile Pro Leu Phe Ser His Tyr Gln Ile Glu Ser Gln Ile Glu Ser
 500 505 510

Ala Phe Gln Arg Glu Val Arg Leu Pro Ser Gly Gly Ser Ile Val Ile
 515 520 525

Asp Ser Thr Glu Ala Leu Thr Ala Ile Asp Ile Asn Ser Ala Arg Ala
 530 535 540

Thr Arg Gly Gly Asp Ile Glu Glu Thr Ala Phe Asn Thr Asn Leu Glu

545	550	555	560
Ala Ala Asp Glu Ile Ala Arg Gln Leu Arg Leu Arg Asp Leu Gly Gly	565	570	575
Leu Ile Val Ile Asp Phe Ile Asp Met Thr Pro Val Arg His Gln Arg	580	585	590
Ala Val Glu Asn Arg Leu Arg Glu Ala Val Arg Gln Asp Arg Ala Arg	595	600	605
Ile Gln Ile Ser His Ile Ser Arg Phe Gly Leu Leu Glu Met Ser Arg	610	615	620
His Arg Leu Ser Pro Ser Leu Gly Glu Ser Ser His His Val Cys Pro	625	630	635
Arg Cys Ser Gly Thr Gly Thr Val Arg Asp Asn Glu Ser Leu Ser Leu	645	650	655
Ser Ile Leu Arg Leu Ile Glu Glu Glu Ala Leu Lys Glu Asn Thr Gln	660	665	670
Glu Val His Ala Ile Val Pro Val Pro Ile Ala Ser Tyr Leu Leu Asn	675	680	685
Glu Lys Arg Ser Ala Val Asn Ala Ile Glu Thr Arg Gln Asp Gly Val	690	695	700
Arg Cys Val Ile Val Pro Asn Asp Gln Met Glu Thr Pro His Tyr His	705	710	715
Val Val Arg Val Arg Lys Gly Glu Glu Thr Pro Thr Leu Ser Tyr Met	725	730	735
Leu Pro Lys Leu His Glu Glu Ala Met Ala Leu Pro Ser Glu Glu Glu	740	745	750
Phe Ala Glu Arg Lys Arg Pro Glu Gln Pro Ala Leu Ala Thr Phe Ala	755	760	765
Met Pro Asp Val Pro Pro Ala Pro Thr Pro Ala Glu Pro Ala Ala Pro	770	775	780
Val Val Ala Pro Ala Pro Lys Ala Ala Pro Ala Thr Pro Ala Ala Pro	785	790	795
Ala Gln Pro Gly Leu Leu Ser Arg Phe Phe Gly Ala Leu Lys Ala Leu			800

805

810

815

Phe Ser Gly Gly Glu Glu Thr Lys Pro Thr Glu Gln Pro Ala Pro Lys
 820 825 830

Ala Glu Ala Lys Pro Glu Arg Gln Gln Asp Arg Arg Lys Pro Arg Gln
 835 840 845

Asn Asn Arg Arg Asp Arg Asn Glu Arg Arg Asp Thr Arg Ser Glu Arg
 850 855 860

Thr Glu Gly Ser Asp Asn Arg Glu Glu Asn Arg Arg Asn Arg Arg Gln
 865 870 875 880

Ala Gln Gln Gln Thr Ala Glu Thr Arg Glu Ser Arg Gln Gln Ala Glu
 885 890 895

Val Thr Glu Lys Ala Arg Thr Ala Asp Glu Gln Gln Ala Pro Arg Arg
 900 905 910

Glu Arg Ser Arg Arg Arg Asn Asp Asp Lys Arg Gln Ala Gln Gln Glu
 915 920 925

Ala Lys Ala Leu Asn Val Glu Glu Gln Ser Val Gln Glu Thr Glu Gln
 930 935 940

Glu Glu Arg Val Arg Pro Val Gln Pro Arg Arg Lys Gln Arg Gln Leu
 945 950 955 960

Asn Gln Lys Val Arg Tyr Glu Gln Ser Val Ala Glu Glu Ala Val Val
 965 970 975

Ala Pro Val Val Glu Glu Thr Val Ala Ala Glu Pro Ile Val Gln Glu
 980 985 990

Ala Pro Ala Pro Arg Thr Glu Leu Val Lys Val Pro Leu Pro Val Val
 995 1000 1005

Ala Gln Thr Ala Pro Glu Gln Gln Glu Glu Asn Asn Ala Asp Asn Arg
 1010 1015 1020

Asp Asn Gly Gly Met Pro Ser Phe Ser Pro Leu Ala Ser Ser Pro Ala
 1025 1030 1035 1040

Arg Lys Trp Ser Ala Ser Ser Ser Leu Ser
 1045 1050

<210> 20
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 20
actgcgccat ggcttacagt atcact

26

<210> 21
<211> 72
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 21
ccgtcagacg tcagaacctc cacctccact tccgccgcct ccagttgcag gaccagaggt 60
ccaaacccaa cc 72

<210> 22
<211> 71
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 22
ctaccctcag agtttagtga tggatgatggt gatgagcggc cgcgtcgact gcagagacag 60
tgaccagagt c 71

<210> 23
<211> 88
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 23

ccctcactcg agtttagagc tcattcttct cagatccacg agcgggccgca gaacctccac 60
ctccgctcgac tgcagagaca gtgaccag 88

<210> 24

<211> 1561

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 24

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gcgtggggcgc acccaataga gttaattaat ttatgtacta atgccttagg aaatcagttt 180
caaacacaaac aagctcgaac tgtcgttcaa agacaattca gtgaggtgtg gaaaccttca 240
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gacgcaacgg tggccataag gagcgcgata aataatttaa tagtagaatt gatcagagga 480
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cctgcaactg gaggcggcgg aagtggaggt ggaggttctg acgtcgtgct gaccagctct 600
ccagcaatca tgtctgcac tccaggggag aaggtcacca tgacctgcag tgccagttca 660
agtgtaagta aaatgcaatg gtatcagcag aagtcaggca cctcccccac aagatggatt 720
tatgacacat ccaaactggc ctctggagtc cctggctcgt tcagtggcag tgggtctggt 780
acctcttact ctctcacaat cagcagcatg gaggtgaag atgctgccac ttattactgc 840
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tcttgatcg cgcgggtcaa atgtatatgg ttcatataca tccgcaggca cgtaataaag 1500
cgaggggttc gaatccccc gttaccccc gtagggggcc aggtaccggc ggcctctag 1560
a 1561

<210> 25

<211> 1582
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 25

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gaattcgtat ttttacaaca attaccaaca acaacaacaa caacaacatt acaattacta 60
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gcgtggggccg acccaataga gttaattaat ttatgtacta atgccttagg aaatcagttt 180
caaacacaac aagctcgaac tgtcgttcaa agacaattca gtgaggtgtg gaaaccttca 240
ccacaagtaa ctgttaggtt ccctgacagt gactttaagg tgtacaggta caatgcggta 300
ttagacccgc tagtcacagc actgttaggt gcattcgaca ctagaaatag aataatagaa 360
gttgaaaatc aggcgaaccc cacgactgcc gaaacgttag atgctactcg tagagtagac 420
gacgcaacgg tggccataag gagcgcgata aataatttaa tagtagaatt gatcagagga 480
accggatctt ataatcggag ctctttcgag agctcttctg gtttggtttg gacctctggt 540
cctgcaactg gagggcggcg aagtggaggt ggaggttctg acgtcgtgct gaccagtcct 600
ccagcaatca tgtctgcac tccaggggag aaggtcacca tgacctgcag tgccagttca 660
agtgtaagta aaatgcaatg gtatcagcag aagtcaggca cctcccccaa aagatggatt 720
tatgacacat ccaaactggc ctctggagtc cctggtcgct tcagtggcag tgggtctggg 780
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cacttaaatc gaagggttgt gtcttgatc gcgcgggtca aatgtatatg gttcatatac 1500
atcggcaggg acgtaataaa gcgaggggtt cgaatcccc cgttaccccc ggtagggggc 1560
caggtaccgg cgcgcctcta ga 1582
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<210> 26
<211> 1059
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 26

gaattcgtat ttttacaaca attaccaaca acaacaacaa caacaacatt acaattacta 60
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 ccaggggaga aggtcaccat gacctgcagt gccagttcaa gtgtaagtaa aatgcaatgg 180
 tatcagcaga agtcaggcac ctcccccaaa agatggattt atgacacatc caaactggcc 240
 tctggagtcc ctggtcgctt cagtggcagt ggggtctggga cctcttactc tctcacaatc 300
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 catagtgttt ttccctccac ttaaatacga ggggttgtgc ttggatcgcg cgggtcaaat 960
 gtatatggtt catatacatc cgcaggcacg taataaagcg aggggttcga atccccccgt 1020
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<210> 27

<211> 1077

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 27

gaattcgtat ttttacaaca attaccaaca acaacaacaa caacaacatt acaattacta 60
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 ggggagaagg tcaccatgac ctgcagtgc agttcaagtg taagtataat gcaatgggtat 180
 cagcagaagt caggcacctc ccccaaaaaga tggatttatg acacatccaa actggcctct 240
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 agcatggagg ctgaagatgc tgccacttat tactgccagc agtggagtag taaccgctc 360
 acgttcgggtg ctgggaccaa gctggagata aaaggctcta ctagtgggtc cgggaagagc 420
 tctgaaggta aaggtgaggt ccagctgcag cagtctggac ctgagctggt aaatcctggg 480
 gcttcagtga agatgtcctg caaggcctct ggatacacat tcattaccta tgttatgcac 540
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 tccaacacag cctacatgga gctcagcagc ctgacctctg aggactctgc ggtctattac 720
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<210> 28
<211> 1654
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 28
gaattcgtat ttttacaaca attaccaaca acaacaacaa caacaacatt acaattacta 60
tttacaagga ccattatgga ctttcaagtg cagattttca gcttcctcct catcagcgcc 120
tcagttatca tctctagggg atccatggct tacagtatca ctactccatc tcagttcgtg 180
ttcttgtcat cagcgtgggc cgaccaata gagttaatta atttatgtac taatgcctta 240
ggaaatcagt ttcaaacaca acaagctcga actgtcgttc aaagacaatt cagtgaagggtg 300
tggaacactt caccacaagt aactgttagg ttccctgaca gtgactttaa ggtgtacagg 360
tacaatgcgg tattagaccc gctagtcaca gcaactgttag gtgcattcga cactagaaat 420
agaataatag aagttgaaaa tcaggcgaac cccacgactg ccgaaacggt agatgctact 480
cgtagagtag acgacgcaac ggtggccata aggagcgcga taaataattt aatagtagaa 540
ttgatcagag gaaccggatc ttataatcgg agctctttcg agagctcttc tggtttggtt 600
tggacctctg gtccctgcaac tggaggcggc ggaagtggag gtggagggtt tgacgtcgtg 660
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tgtttttccc tccacttaaa tcgaagggtt gtgtcttgga tcgcgcgggt caaatgtata 1560
tggttcatat acatccgcag gcacgtaata aagcgagggg ttogaatccc cccgttacct 1620
ccggtagggg cccaggtacc ggcgcgcctc taga 1654

<210> 29
<211> 259
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 29

Glu Val His Cys Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Arg Ala Ser Asp Tyr Thr Phe Thr Ser Tyr
20 25 30

Tyr Met Tyr Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Lys Pro Ser Gly Asn Gly Thr Asn Phe Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Ser Asp Tyr Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Ser Gly Asn Ala Met Asp Tyr Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Asp Ile Val Leu Thr Leu Ser Pro Ala Thr Leu Ser Val
130 135 140

Thr Pro Gly Asp Arg Val Ser Leu Ser Cys Arg Ala Ser Gln Ser Ile
145 150 155 160

Ser Asn Phe Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg
165 170 175

Leu Leu Ile Lys Tyr Thr Ser Gln Ser Ile Ser Gly Ile Pro Ser Thr
180 185 190

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser
195 200 205

Val Asp Thr Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn Ser
210 215 220

Trp Pro His Arg Phe Gly Ser Gly Ile Lys Leu Glu Leu Lys Ser Ala
225 230 235 240

Val Asp Ala Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
 245 250 255

Gly Ala Ala

<210> 30

<211> 267

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 30

Glu Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Asp Tyr Ser Phe Thr Gly Tyr
 20 25 30

Asn Met Asn Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
 35 40 45

Gly Asn Ile Asn Pro Tyr Tyr Gly Ser Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95

Ala Val Gly Gly Asn Tyr Val Asp Trp Phe Ala Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
 115 120 125

Ser Gly Gly Gly Gly Ser Asp Ile Leu Leu Thr Gln Ser Pro Leu Ser
 130 135 140

Leu Pro Val Ser Leu Gly Asp His Ala Ser Ile Ser Cys Arg Ser Ser
 145 150 155 160

Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu
 165 170 175

Gln Asn Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn
 180 185 190

Arg Phe Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 195 200 205

Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val
 210 215 220

Tyr Phe Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gly Gly
 225 230 235 240

Thr Lys Leu Glu Leu Lys Arg Ala Val Asp Ala Ala Ala Glu Gln Lys
 245 250 255

Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
 260 265

<210> 31
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 31
 catgccatga ctcgcggccc agccggccat ggc

33

<210> 32
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 32
 gakgtrcagc ttcaggagtc rgga

24

<210> 33

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 33

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 34

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 34

caggtgmagc tgawggartc tgg

23

<210> 35

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 35

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 36

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no

natural origin

<400> 36

gaggtccagc trcarcartc tggacc

26

<210> 37

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 37

catgccatga ctgcgggcc agccggccat ggcc

34

<210> 38

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 38

catgccatga ctgcgggcc agccggccat ggcc

34

<210> 39

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 39

catgccatga ctgcgggcc agccggccat ggc

33

<210> 40

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 40

saggtccarc tgcagsaryc tggr

24

<210> 41

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 41

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 42

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 42

gaggttcagc tgcagcagtc tggg

24

<210> 43

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 43

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 44
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 44
gargtgaagc tggtaggartc tggr

24

<210> 45
<211> 34
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 45
catgccatga ctgcggccc agccggccat ggcc

34

<210> 46
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 46
gaggtgaags tyntcgagtc tgga

24

<210> 47
<211> 34
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 47

catgccatga ctgcgggccc agccggccat ggcc

34

<210> 48

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 48

gargtgaagc tkgakgagwc tgr

23

<210> 49

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 49

catgccatga ctgcgggccc agccggccat ggcc

34

<210> 50

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 50

gavgtgmwgc tkgtggagtc tggk

24

<210> 51

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 51

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 52

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 52

gaggtgcac tkgttgagtc tgggtg

25

<210> 53

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 53

catgccatga ctcgcggccc agccggccat ggcc

34

<210> 54

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 54

saggtycagc tlcagcagtc tgga

24

<210> 55
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 55
catgccatga ctcgcggccc agccggccat ggcc

34

<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 56
cagatccagt tgggtgcagtc tgga

24

<210> 57
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 57
catgccatga ctcgcggccc agccggccat ggcc

34

<210> 58
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 58
caggtscacs tgrwgsagtc tggg

24

<210> 59
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 59
caggtscacs tgrwgsagtc tggg

24

<210> 60
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 60
caggttactc traaagwgts tggcc

25

<210> 61
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 61
catgccatga ctcgcggccc agccggccat ggcc

34

<210> 62
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 62

gatgtgaact tggaagtgtc tgg

23

<210> 63

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 63

catgccatga ctgcgggcgc gcct

24

<210> 64

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 64

gacattgtgm tgwchcagtc tcca

24

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 65

catgccatga ctgcgggcgc gcct

24

<210> 66

<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic,* no
natural origin

<400> 66
gacattcaga tgattcagtc tcc

23

<210> 67
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 67
catgccatga ctgcgggcgc gcct

24

<210> 68
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 68
gacattgttc tcwhccagtc tcc

23

<210> 69
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 69

catgccatga ctgcgggcgc gcct

24

<210> 70

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 70

gacattgtgm tgwhcagtc tcaa

24

<210> 71

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 71

catgccatga ctgcgggcgc gcct

24

<210> 72

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 72

gatrtrktga tgacccarrc kgca

24

<210> 73

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 73

catgccatga ctcgcggcgc gcct

24

<210> 74

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 74

gatrttktga tgacccarrc kcca

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<210> 75

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 75

catgccatga ctcgcggcgc gcct

24

<210> 76

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 76

gacattgtga tgacccarbh tg

22

<210> 77

<211> 24

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 77
catgccatga ctgcgggcgc gcct

24

<210> 78
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 78
gatattktga tgacccaray tcc

23

<210> 79
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 79
catgccatga ctgcgggcgc gcct

24

<210> 80
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 80
ramattgtgm tgaccaaty tccw

24

<210> 81
<211> 24
<212> DNA
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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 81
catgccatga ctcgcgggcgc gcct

24

<210> 82
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 82
saaawtgtkc tsacccagtc tcca

24

<210> 83
<211> 24
<212> DNA
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<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 83
catgccatga ctcgcgggcgc gcct

24

<210> 84
<211> 23
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no

natural origin

<400> 84

gayatycaga tgacmcagwc tac

23

<210> 85

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 85

catgccatga ctcgcggcgc gcct

24

<210> 86

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 86

gayatycaga tgachcagwc tcc

23

<210> 87

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 87

catgccatga ctcgcggcgc gcct

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<210> 88

<211> 23

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 88

gacattgtga tgactcaggc tac

23

<210> 89

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 89

catgccatga ctgcgggcgc gcct

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<210> 90

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 90

carsygtgkts tsactcagka at

22

<210> 91

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 91

catgccatga ctgcgggcgc gcct

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<210> 92
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<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 92
carsytgts tsactcagkc at

22

<210> 93
<211> 27
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 93
ctagtggtag tccacggccg gccccctg

27

<210> 94
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 94
mrgagacdgt gasmgtrgtc

20

<210> 95
<211> 27
<212> DNA
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<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 95
ctagtgggtac tccacggccg gccccctg

27

<210> 96
<211> 20
<212> DNA
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natural origin

<400> 96
mrgagacdgt gasrgtrgtg

20

<210> 97
<211> 27
<212> DNA
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<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 97
ctagtgggtac tccacggccg gccccctg

27

<210> 98
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 98
mrgagacdgt gascagrgtc

20

<210> 99
<211> 27
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 99

ctagtgggtac tccacggccg gccccctg

27

<210> 100

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 100

mrgagacdgt gastgaggtt

20

<210> 101

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 101

ctagtgggtac tccacggccg gccccctg

27

<210> 102

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 102

mrgagacdgt gastgaratt

20

<210> 103
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 103
ctagtgttac tccacgcggc cgcgtcgac

29

<210> 104
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 104
agcmcgtttc agytccaryt t

21

<210> 105
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 105
ctagtgttac tccacgcggc cgcgtcgac

29

<210> 106
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 106
agcmcgtttk atytccaryt t

21

<210> 107
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 107
ctagtgggtac tccacgcggc cgcgtcgac

29

<210> 108
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 108
agcmcgtttb akytctatct ttgt

24

<210> 109
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 109
ctagtgggtac tccacgcggc cgcgtcgac

29

<210> 110
<211> 27
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 110

agcmcgagcm cgttttattt ccaamkt

27

<210> 111

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 111

ctagtgggtac tccacgcggc cgcgtcgac

29

<210> 112

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 112

ctgrcctagg acagtsasyt tggt

24

<210> 113

<211> 257

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 113

Met Ala Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro

1

5

10

15

Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr

20

25

30

Asn Tyr Asn Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu
35 40 45

Trp Ile Gly Ala Ile Tyr Pro Arg Asn Gly Asp Thr Ser Tyr Asn Gln
50 55 60

Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr
65 70 75 80

Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Pro Asp Val Trp Gly Ala Gly Thr Leu Leu Thr Val
100 105 110

Ser Ala Gly Ala Gly Pro Thr Ser Gly Ser Gly Lys Pro Gly Pro Gly
115 120 125

Glu Gly Ser Thr Lys Gly Ala Pro Asp Val Leu Met Thr Gln Ala Pro
130 135 140

Leu Thr Leu Ser Val Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys
145 150 155 160

Ser Ser Gln Ser Leu Leu Asp Gly Asp Gly Lys Thr Tyr Leu Asn Trp
165 170 175

Leu Leu Gln Arg Pro Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val
180 185 190

Ser Lys Leu Asp Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser
195 200 205

Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
210 215 220

Gly Val Tyr Tyr Cys Trp Gln Gly Thr His Phe Pro His Thr Phe Gly
225 230 235 240

Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Arg Ala Val Asp Ala Ala
245 250 255

Ala

<210> 114

<211> 259

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 114

Met Ala Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Lys Pro
1 5 10 15

Ser Gln Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser
20 25 30

Thr Ser Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly
35 40 45

Leu Glu Trp Leu Ala His Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn
50 55 60

Pro Ser Leu Arg Ser Gln Leu Thr Ile Ser Lys Asp Thr Ser Arg Asn
65 70 75 80

Gln Val Phe Leu Arg Ile Thr Asn Val Asp Thr Ala Asp Thr Ala Thr
85 90 95

Tyr Tyr Cys Ala Arg Gly Tyr Tyr Gly Asn Asp Ser Pro Phe Ala Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Leu Thr Val Ser Ser Gly Ala Gly Pro Thr
115 120 125

Ser Gly Ser Gly Lys Pro Gly Pro Gly Glu Gly Ser Thr Lys Gly Ala
130 135 140

Pro Asp Ile Val Leu Ser Gln Ser Pro Lys Phe Met Ser Thr Ser Val
145 150 155 160

Gly Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Ile Val Arg Thr
165 170 175

Ala Val Ala Trp Phe Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu
180 185 190

Ile Tyr Leu Ala Ser Asn Arg His Thr Gly Val Pro Asp Arg Phe Thr

195

200

205

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln
 210 215 220

Ser Glu Asp Leu Ala Asp Tyr Phe Cys Leu Gln His Trp Asn Tyr Pro
 225 230 235 240

Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala Val Asp
 245 250 255

Ala Ala Ala

<210> 115

<211> 259

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
 natural origin

<400> 115

Met Ala Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro
 1 5 10 15

Gly Gln Thr Val Lys Ile Ser Cys Lys Ala Ser Ala Tyr Thr Phe Thr
 20 25 30

Asp Tyr Ser Met His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys
 35 40 45

Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp
 50 55 60

Asp Phe Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr
 65 70 75 80

Ala Tyr Leu Gln Ile Asn Thr Leu Lys Asn Glu Asp Ser Ala Thr Tyr
 85 90 95

Phe Cys Ala Arg Gly Ser Gly Phe Asn Pro Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ala Gly Ala Gly Pro Thr Ser Gly Ser Gly Lys

115	120	125
Pro Gly Pro Gly Glu Gly Ser Thr Lys Gly Ala Pro Asp Ile Val Leu		
130	135	140
Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly Glu Lys Val Thr		
145	150	155 160
Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys		
165	170	175
Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu		
180	185	190
Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg Phe		
195	200	205
Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Val		
210	215	220
Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Tyr		
225	230	235 240
Val Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys Arg Ala Val Asp		
245	250	255
Ala Ala Ala		

<210> 116

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 116

Asn Leu Ile Val Glu Leu Ile Arg Gly Thr Gly Ser
1 5 10

<210> 117

<211> 9

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 117

Lys Thr Asp Leu Val Cys Arg Ala Thr
1 5

<210> 118

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 118

Arg Ile Val Ile Cys Gly Arg Val Thr
1 5

<210> 119

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 119

Arg Gly Thr Leu Pro Ala Arg Gly Thr
1 5

<210> 120

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 120

Val Gly Arg Gln Arg Asp Thr Gln Ser

1

5

<210> 121

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 121

Phe Leu Arg Val Asp Ala Arg Glu Thr

1

5

<210> 122

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 122

Val Ala Gly Met Leu Gly Lys Gly Thr

1

5

<210> 123

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 123

Arg Trp Glu Leu Ala Asn Arg Ser Thr

1

5

<210> 124

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 124

Pro Ser Ala Leu Gly Thr Arg Glu Thr

1

5

<210> 125

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 125

Lys Asn Asp Leu Val Ser Arg Ala Thr

1

5

<210> 126

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 126

Gln Ile Val Ser Ala Trp Arg Glu Thr

1

5

<210> 127

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 127

Cys Ala Leu Pro Ala Arg His Ile Gly Arg Cys

1

5

10

<210> 128

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 128

Cys Gln Leu Pro Ala Arg Ala Thr Ser Ser Cys

1

5

10

<210> 129

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 129

Cys Ile Thr Ser Gln Arg Glu Thr Gly Trp Cys

1

5

10

<210> 130
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 130
Cys Arg Arg Ser Thr Thr Gly Ile Cys
1 5

<210> 131
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 131
Cys Ser Thr Thr Leu Tyr Lys Arg Gly Thr Cys
1 5 10

<210> 132
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 132
Arg Val Asp Leu Pro Ala Arg Glu Thr
1 5

<210> 133
<211> 12

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 133

Lys His Ile Lys Asp Trp Glu His Leu Glu Glu Phe
1 5 10

<210> 134

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 134

Lys Arg Lys Asp Gly Glu His Trp Leu
1 5

<210> 135

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 135

Arg Gln Ala Lys Ser Trp Ser Ser Leu
1 5

<210> 136

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 136

Tyr Gln Ala Lys Glu Trp Ser Asn Leu

1

5

<210> 137

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 137

Lys Asp Trp Glu His Arg Val Pro Ser

1

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<210> 138

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 138

Lys Asp Trp Glu His Leu

1

5

<210> 139

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 139

Lys Asp Trp Ser His Leu

1

5

<210> 140

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 140

Pro Lys Ser Asp Pro Gln Met Gly Lys Arg Arg Arg

1

5

10

<210> 141

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 141

His Pro Arg Pro Gln Leu Ala Ser Leu

1

5

<210> 142

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 142

His Pro Asp Pro Gln Ser Ser His Ser

1

5

<210> 143

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 143

Arg Phe Thr Asp Pro Gln Leu His Pro

1

5

<210> 144

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 144

Lys Gln Asp Pro Gln Gln Gln Lys Gln

1

5

<210> 145

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 145

Val Pro Asp Ser Gln Leu Glu Trp Pro

1

5

<210> 146
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 146

His Cys Asp Pro Gln Leu Tyr Gln Glu

1

5

<210> 147
<211> 9
<212> PRT
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<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 147

Asp Pro Gln Met Phe Arg Arg His Cys

1

5

<210> 148
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 148

Phe Lys Asp Gly Gln Leu Arg Pro Gln

1

5

<210> 149
<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 149

Cys Pro Asp Pro Gln Leu Arg Leu His Arg Cys
1 5 10

<210> 150

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 150

Cys Pro Asp Pro Gln Leu Asn Gly Thr Arg Cys
1 5 10

<210> 151

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 151

Cys Pro Asp Pro Gln Leu Ser Ser Leu Arg Cys
1 5 10

<210> 152

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 152

Cys Pro Asp Pro Gln Leu Arg Leu His Arg Cys
1 5 10

<210> 153

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 153

Cys Pro Asp Pro Gln Leu Thr Leu His Arg Cys
1 5 10

<210> 154

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 154

Cys Pro Asp Pro Gln Leu Ser Leu Gln Arg Cys
1 5 10

<210> 155

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 155

Cys Pro Asp Ala Gln Leu Ser Gly Thr Arg Cys
1 5 10

<210> 156

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 156

His Pro Asp Pro Gln Leu Ser Leu His Arg
1 5 10

<210> 157

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 157

gcggaattcg acgtcgccat gggctgggaa caactggagc ag

42

<210> 158

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 158

gcgaagcttg tcgaccggcg gtttgccggg ctggctg

37

<210> 159
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 159
gcggaattcg acgtcgccat ggccttcttc ggcgacggcg gcgac

45

<210> 160
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 160
gcgaagcttg tcgaccggcg gtttgccggg ctggctg

37

<210> 161
<211> 1136
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic, no
natural origin

<400> 161
gaattcacac acaatcagat ttatagagag atttataaaa aaaaaaaaaac atatggactt 60
tcaagtgcag attttcagct tcctcctcat cagcgcctca gttatcatct ctaggggatac 120
catgggctgg gaacaactgg agcagtgcgg ctatccggtg cagcggtggtg tcgccctcta 180
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<211> 827

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic, no natural origin

<400> 162

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